

Chapter 9

Rediscovering Business Processes: Definitions, Patterns, and Modelling Approaches

Kostas Vergidis
University of Macedonia, Greece

ABSTRACT

Although it has been more than a decade since the emergence of the concept of business processes, there is still a lack of common ground and agreement about their nature and context, their contribution and benefits to the contemporary business environment. This chapter ‘rediscovers’ business processes in the sense that provides a critical review of the multiple definitions by different authors and constructs a schema with the main structural elements that constitute a business process. It also reviews the main modelling approaches and classifies them into three primary groups according to their diagrammatic, formal and execution capabilities. Lastly, the main business process patterns are identified and the main business process modelling techniques are compared based on their pattern support capabilities. The work presented rediscovers business processes by providing a holistic understanding that will lead to their standardisation and further development.

INTRODUCTION

Organisational efficiency requires continuous improvement of key business processes. Business processes strongly influence –if not define– the quality of the product and the satisfaction of the customer, both of which are of fundamental importance in the marketplace. This paper attempts to provide an overview of business processes and it does that by discussing a selection of definitions and specifications of business processes and presenting a novel classification scheme for business process models. The discussion highlights the current trends and provides future research directions in this area. The paper is organised as follows: the next section compiles the definitions of business processes and their elements, and proposes a schema that visually decomposes the concept of business processes. Section 3 presents

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modelling approaches regarding business processes and classifies them in three primary groups. Section 4 is dedicated to the main patterns used in business process models and it provides an evaluation of the suitability of existing modelling techniques in implementing these patterns.

BUSINESS PROCESSES: ONE SCHEMA, MANY DEFINITIONS

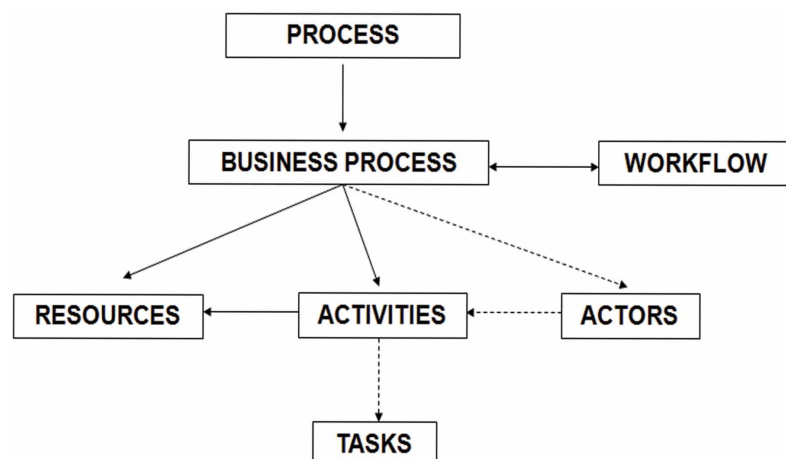
This section discusses how a business process is defined in literature. There are a number of different approaches and definitions originating from different areas. This section attempts to clarify how business processes are perceived, by presenting the most representative definitions and a generic schema of the main structural elements of business processes. There is an abundance of perceptions and definitions found in literature and this section provides an insight towards the main concepts around business processes.

A Schema for Business Processes

Research regarding business processes shows that although there is a wide variety in terms of definitions, when it comes to the structural elements of a business process there is a common ground to build upon. Figure 1 presents a generic business process schema that involves the most common structural elements found in literature. These elements are put together in a hierarchical structure that reflects the relationships between them. A detailed description of all the elements of figure 1 is provided later in this section.

Starting from the top, it is necessary to recognise that although business processes are by definition placed within a ‘business’ context, they are a subclass of generic processes and as such they inherit all of their main properties as discussed in the following sub-section. Moving to the second level of the schema, business processes are placed in parallel with workflows and linked using a bi-dimensional arrow. Workflows –a term older than business processes– are closely linked with business processes and sometimes these terms are interchangeably used. The third level of the business process schema is based on the fact that many authors (see table 1) consider the *actors*, *activities* and *resources* as the basic structural elements of a business process. These are the three main concepts involved in most

Figure 1. Schematic relationship of the main business process elements



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